

1 33754/JWE/B600

## DUAL MODE QAM/VSF RECEIVER

### 5 ABSTRACT OF THE DISCLOSURE

A television receiver system capable of receiving and demodulating television signal information content that has been modulated and transmitted in accordance with a variety of modulation formats is disclosed. In particular, the system is  
10 able to accommodate receipt and demodulation of at least 8 and 16-VSB modulated signals in order to support US HDTV applications, as well as 64 and 256-QAM modulated signals, for European and potential US CATV implementations. The system includes carrier and timing recovery loops adapted to operate on  
15 an enhanced pilot signal as well as decision directed carrier phase recovery loops. Phase detectors operate on I and Q rail signals, or generate a Q rail from a Hilbert transform of the I rail. Decision directed loops incorporate a trellis decoder in order to operate on sequence estimated decisions for improved  
20 reliability in poor SNR environments.

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